

W. J. WILDER.

Improvement in Galvanic-Batteries.

No. 132,997.

Patented Nov. 12, 1872.

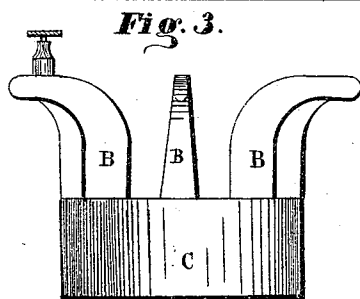
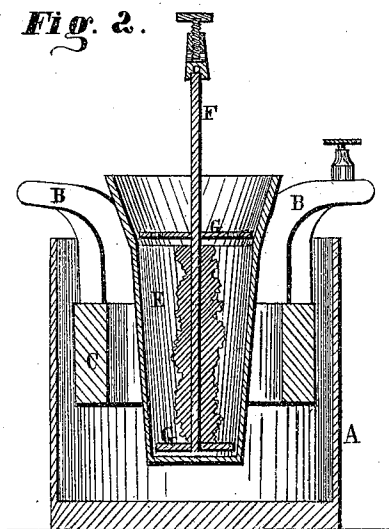
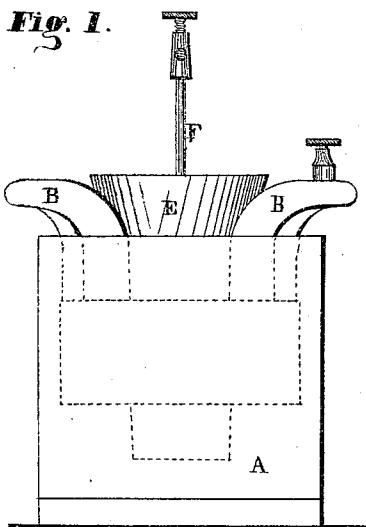
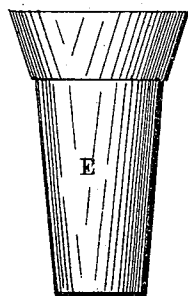
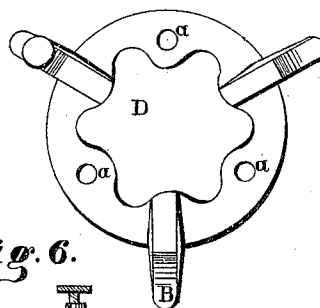


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM J. WILDER, OF CLEVELAND, OHIO.

IMPROVEMENT IN GALVANIC BATTERIES.

Specification forming part of Letters Patent No. 132,997, dated November 12, 1872.

To all whom it may concern:

Be it known that I, WILLIAM J. WILDER, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improved Galvanic Battery, of which the following is a description.

Figure 1 is a side view of the battery; Fig. 2 is a vertical transverse section; Fig. 3 is a detached view of the zinc used in the battery; Fig. 4 is a top view of the same; Fig. 5 is a detached view of the porous cup; and Fig. 6 is a detached view of the copper wire in the battery.

Like letters of reference refer to like parts in the several views.

The nature of this invention relates to a galvanic battery; and the object sought for in the invention is the preservation of the zinc from the erosive action of the acid when the battery is not active. The invention also consists in giving to the zinc such a shape that it shall have a larger surface exposed to the acid than those in ordinary use, and in providing said zinc with chambers or reservoir for holding the mercury used for the amalgamation of the zinc.

Of the above-specified invention the following is a more complete description.

In the drawing, Fig 1, A represents a glass vessel or cup. In said cup is suspended, by the arms B, the zinc C, Fig. 2, a detached view of which is shown in Fig. 3. Said zinc is of a circular shape, as is shown in Figs. 3 and 4, having a central corrugated opening, D, in which is held the porous cup E, Fig. 5, as shown in Fig. 2. The purpose of corrugating the inside of the zinc is to obtain a larger surface to present to the action of the acid, without a corresponding increase of the bulk of the zinc, thereby reducing the size of the battery without diminishing its capacity. In the top of the zinc are bored holes *a*, Fig. 4, in which is placed the mercury for amalgamating the zinc. By thus keeping in reserve and in contact with the zinc a constant supply of mercury, is saved the trouble of removing the

zinc from the cup for the purpose of being amalgamated, and which is usually done by pouring the mercury upon the zinc.

In order to prevent the zinc from wasting by the activity of the acid, I coat the outside thereof with a prepared lacquer or non-erosive material, which persistently resists its erosive attacks, confining its action to the inside of the zinc, which is not coated, the corrugations being left exposed for working the battery, at which point the zinc is the most effective for its nearness to the cup, hence more central.

F is the copper wire, the positive pole of the battery, and which is suspended in the porous cup E by the insulator G. The mouth of the porous cup is also coated with lacquer or other equivalent material to prevent the liquid of the copperas from passing through the lips of the cup and discoloring the zinc, and thereby prevent its action until cleaned by the removal of the coat of coloring matter.

The advantage of a battery constructed as above described over others is that the zinc is less liable to waste for being protected by the coating of lacquer or other like material; hence it is less expensive to work it; also, by placing the mercury in the body of the zinc in the manner as specified the amalgamation goes on without special attention, hence time and labor is saved in this direction.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The zinc C having a corrugated hole, D, therein, and arms B, in combination with the porous cup E and glass cup A, as and for the purpose set forth.

2. The outer surface of the zinc C coated with lacquer or other material that shall resist the action of the acid, thereby confining the action of the acid to the corrugated hole D, as specified.

WILLIAM J. WILDER.

Witnesses:

J. H. BURRIDGE,
A. F. CORNELL.